Reviewer's report

Title: A retrospective, longitudinal study estimating the association between interdialytic weight gain and cardiovascular events and death in hemodialysis patients

Version: 2 Date: 13 March 2015

Reviewer: Cécile Couchoud

Reviewer's report:

Cabrera and coll. have analyzed the association between inter-dialytic weight gain and cardiovascular events. It shows interesting results. However, this paper may be improved. Please find hereafter some suggestions.

Major Compulsory Revisions

1. Since the authors analyzed a continuous variable, they may have use splines to show the association, instead of using 0.5 cut points (Table 3 and table 4 could be therefore be removed and replace by figures: crude and adjusted splines).

2. It would have been interesting to look after some interaction or sub-groups analysis to see if those results are similar across age or diabetic status for example.

3. By studying cardiovascular mortality, it may have been interesting to look at the competing risk of other mortality causes. If patients with malnutrition with low IDWG dye more often from another cause, they may not be at risk of dying from cardiovascular causes.

4. The choice to use composite outcome is not clear. The possibility to compare with the Korean study may be clearly written in the methods. However, to my opinion, it would have been more interesting to have the details of each outcome (i.e. stroke, arythmia)

5. It is not clear why some patients have a prior transplant. Does it mean that this cohort includes prevalent patients? It is not clearly stated in the methods, since it is written that eligible patients where those who initiated in-center LDO HD within 30 days of first dialysis. Are those transplantations, only preemptive transplantation?

6. If height is available, it could have been interesting to take into account the BMI. 3% of IDWG for an obese patient has not the same meaning that for a patient with cachexia.

7. The discussion concerning residual diuresis is not clear. If patients have a residual diuresis, why does it distort the IDWG? The focus is not the amount of fluid taken by the patient but the amount of fluid that “stays” in the patient.

Minor Essential Revisions
8. In the methods, it is indicated that the cut-off for IDWG is 3.5 kg, but in the results, it is 3 kg.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests.